SCIENTIFIC INTELLIGENCE COMMITTEE

C-E-3 file
22 AUG 1966
0556

18 August 1966

MEMORANDUM FOR: Director, National Estimates

SUBJECT: Partial SIC Contribution to NIE 11-14-66, NIPP 67, Part III

The attached tables on tanks, artillery, mortars, AAA, and surface ships were approved by the SIC on 18 August 1966.

25X1A [redacted]
Executive Secretary

Attachment:
Tables - 8 pages

Distribution:
12 - ONE
1 - Each SIC Member
1 - JAEIC
1 - GMAIC
1 - ORR
1 - Exec/SI

III A 12

SOVIET MORTARS AND MULTIPLE ROCKET LAUNCHERS
CHARACTERISTICS AND PERFORMANCE

Type and Size	Salvo or Max. Rate of Fire	Reload Time (min.)	Maximum Range (meters)	Air Transportable	Prime Mover Type	Prime Mover Speed (mph)
Multiple Rail Rocket Launchers						
250 mm	6 rnds	10	55,900	no	KRAZ 214	34
240 mm	12 rnds	15	7,300	yes	ZIL 151	40
200 mm	4 rnds	10	20,300	yes	AT-S	22
140 mm	16-17 rnds	3- 4	8,800	yes	ZIL 151	40
115 mm (?)	40 rnds	15	15,000	yes	ZIL 151 GAZ 63	40 40
					Ural 375	47
Mortars						
160 mm	3 rds/min.	NA	8,070	yes	Truck or APC	
120 mm	15 rds/min.	NA	5,700	yes	Truck or APC	
82 mm	25 rds/min.	NA	3,040	yes	Truck or APC	

1/ Toxic CW rounds probably are available for all types of mortars and for multiple-rail rocket launchers. The latter weapons are used for area coverage and CW rounds probably are filled with the non-persistent agents hydrogen cyanide.

↑ including

[illegible]: CHARACTERISTICS AND PERFORMANCE

Designation	Maximum Range Horizontal (yds)	Maximum Range Vertical (ft)	Maximum Effective AA Range (ft)	Weight of Projectile (lbs)	Practical Rate of Fire (rds per min)	Muzzle Velocity (ft per sec)	Traverse (deg)	Elevation Limits (deg)	Weight (lbs)	Status
12.7mm Heavy Mach Gun, DShK 38/46	6500	14,436	3300	.10	80	2756	360°	0° + 90°	368	Standard on AFC & Tanks
14.5mm ZPU-2 and ZPU-4 Mach Gun	7650	14,750	4600	.14	150 (per gun)	3281	360°	-10° + 90°	4400 (ZPU-4)	Standard (ZPU-4) Limited Standard (ZPU-2)
23mm Twin Anti-Aircraft Gun ZU-23	8200	19,000	6600	.41	60 (per gun)	3050	360°	-5° + 90°	2060	Standard
23mm Quad Self-Propelled Antiaircraft Gun ZSU-23-4	8200	19,000	9800 radar 6660 optical	.41	300-350 (per gun)	3050	360°	-10° + 85°	-	Standard
37mm Antiaircraft Gun M1939	8752	19,685	5600	1.6	80	2887	360°	-5° + 85°	4600	Obsolete in USSR
57mm Antiaircraft Gun S-60	13,120	28,873	13,120 on carriage 19,700 off carriage	6.18	70	3280	360°	-4° + 87°	10,800	Standard
57mm Twin Self Propelled Anti-aircraft gun ZSU-57-2	13,120	28,873	13,120	6.18	70 (per gun)	3280	360°	-5° + 85°	61,720	Standard

PRINCIPAL CURRENT SOVIET ANTIAIRCRAFT GUNS: CHARACTERISTICS AND PERFORMANCE (CONT)

Designation	Maximum Range		Maximum Effective AA Range (ft)	Weight of Projectile (lbs)	Practical rate of Fire (rds per sec)	Muzzle Velocity (ft per sec)	Traverse (deg)	Elevation Limits (deg)	Weight (lbs)	Status
	Horizontal (yds)	Vertical (ft)								
85mm Antiaircraft Gun KS-12 & KS-18	16,950	34,450	27,500	21.1	15-20	2625	360°	-3° + 82°	948	Obsolete in USSR
100mm Antiaircraft Gun KS-19	23,000	50,500	39,000	35	15	2950	360°	-3° + 85°	20,800	Obsolete in USSR
130mm Antiaircraft Gun KS-30	31,900	71,700	54,600	73.6	10-12	3100	360°	-5° + 80°	65,000	Obsolete in USSR

SECRET

III A 10

SOVIET TANKS AND ASSAULT GUNS: CHARACTERISTICS AND PERFORMANCE

Designation	Weight (short tons)	Speed (mph)	Cruising Range (miles)	Fording Depth (ft) without snorkel	Main Armament Caliber	Main Armament Model	Armor Penetration (0° obliquity) 500 m.	Armor Penetration (0° obliquity) 1,000 m.
Light Tank PT 76 1/	15.4	Land: 27.3 Water 6.3	149	Amphib.	76 mm	D-56T	AP-T: 69 mm HVAP: 92 mm HEAT: 120 mm	61 mm 58 mm 120 mm
Medium Tanks T-54 1/	40.0	31	216 (310)2/	4.6 3/	100 mm	D-10T	AP-T: 227 mm HVAP: 199 mm APDS: 308 mm HEAT: 400 mm	211 mm 176 mm 289 mm 400 mm
T-55 1/	40.0	31	216 (310)2/	4.6 3/	100 mm	D-10T2S	AP-T: 227 mm HVAP: 199 mm APDS: 308 mm HEAT: 400 mm	211 mm 176 mm 289 mm 400 mm
T-62 1/4/	40.5	30	216 (310)2/	4.6 3/	115 mm	Smooth-bore	APDS: 337 mm HEAT: 500 mm	315 mm 500 mm
T-1970 1/	37	32	350	4.6 3/	Rifled gun or 5/ Shillelagh type weapon		Equal or superior to current models.	

SECRET

Heavy Tank								
T-10M 1/	54.5	22	155	3.9	122 mm		APDS: 337 mm	314 mm
							HEAT: 457 mm	457 mm
Assault Gun 6/								
ASU-57 6/	6.0	40	200	3	57 mm		HVAP-T: 140 mm	95 mm
ASU-85 1/6/	15.0	25	150	unk.	85 mm		HVAP-T: 143 mm	103 mm
SU-100	33.1	35	190	4.2	100 mm	D-10S	AP-T 193 mm	185 mm
JSU-122	50.6	23	85	4.2	122 mm	A-19S	AP-T: 155 mm	147 mm
							HEAT: 203 mm	203 mm
JSU-152	51.2	23	85	4.2	152 mm	ML20S	AP-T: 132 mm	124 mm

1/ This vehicle is equipped with infrared equipment.
2/ The cruising ranges of Soviet tanks can be considerably increased by the mounting of on-board auxiliary fuel drums and cans; this practice has been most prevalent in Soviet medium tanks where two (and sometimes three) 53-gallon fuel drums have been used. Increased ranges (in parentheses) given for T-54, -55, and -62 tanks are based on use of two 53-gallon auxiliary drums.
3/ This tank is equipped with snorkel equipment which permits fording to depths of 15-18 feet.
4/ A rifled gun may appear as a replacement for the 115 mm smoothbore gun on T-62 type tanks by 1967.
5/ Shillelagh type capable of firing both AT guided missiles and conventional ammunition.
6/ Air transportable weapons. The ASU-57 is also air droppable.

Class	Dimensions: Displacement (tons fully loaded)	Dimensions: Length Over-all (feet)	Performance: Max Speed (kts)/Range (NM)	Performance: Cruising Speed (kts)/Range (NM)	Armament: Main	Armament: Antiair	Armament: Torpedo Tubes 2/	Armament: Mines 3/	Armament: ASW	Sonar: Type	Sonar: Ranges Active Mode
Cruisers											
SVERDLOV	17,200	689	32/2,470	18/8,700	4 three-gun 6"/57 tur	16 twin 37-mm; 6 twin 3.9"/70DP		140	Depth Charges	Tamir 5N	1800-2000 yds
CHAPAYEV	15,000	665	32/1,000	15/5,000	4 three-gun 6"/57 tur	14 twin 37-mm 4 twin 3.9"/70DP		140	Depth Charges		1800-2000 yds
KIROV	9,207	626-08"	35/850	18/3,000	3 three-gun 7.1"/57 tur	9-10 twin or 18-20 single 37-mm; 6 single 3.9"/56DP		90	Depth Charges	Tamir 5N	1800-2000 yds
SVERDLOV (SAM)	17,200	689	32/2,470	18/8,700	1 twin SAM 3 three-gun 6"/57	8 twin 37-mm; 6 twin 3.9"/70DP		140	None	Tamir 5N	1800-2000 yds
Frigates (GM) "Kashin"	4,450	470	38/1,240	10/6,950	2 twin SAM	2 twin 3.35"/ (85 mm) DP	5x21"ASW	50	2-MBU 4500A 4/	Hercules	4000-5000 yds
"Kynda"	5,600	465	34/1,500	16/5,200	2 quad SSM 1 twin SAM	2 twin 3.35"/ (85 mm) DP	6x21"ASW	(NA)	2-MBU 2500A	Hercules	4000-5000 yds
Destroyers (GM) "Krupnyy"	4,500	452	35/1,400	15/4,700	2 single SSM	4 quad 2.24"/70 (57 mm)	6x21"ASW	(NA)	2-MBU 2500	Hercules	4000-5000 yds
"Kildin"	3,500	415	36/1,040	11/6,450	1 single SSM	4 quad 2.24"/70 (57 mm)	6x21"ASW	(NA)	2-MBU 2500	Pegas 2M (possibly Hercules)	4000-5000 yds
"Kotlin (SAM)"	3,500	415	36/1,040	11/6,450	1 twin SAM 1 twin 5.1"/58 DP	1 quad 1.8"/46 (45 mm)	3x16"ASW	(NA)	(NA)	Pegas 2M (possibly Hercules)	4000-5000 yds
Destroyers											
"Kotlin"	3,500	415	36/1,040	11/6,450	2 twin 5.1"/58 DP	4 quad 1.8"/46 (45 mm)	10x21"	70	Depth Charges	Pegas 2M (possibly Hercules)	4000-5000 yds
Modified "Kotlin"	3,520	415	36/1,040	11/6,450	2 twin 5.1"/58 DP	4 quad 1.8"/46 (45 mm)	5x21"ASW	70	DC; 2 MBU 2500 3/	Pegas 2M (possibly Hercules)	4000-5000 yds
SKORYY	3,050	395	33.5/1,050	14/3,500	2 twin 5.1"/50 DP 3/	4 twin 37-mm	10x21"	50	Depth Charges	Tamir 5N	1800-2000 yds
Modified SKORYY	3,050	395	33.5/1,050	14/3,500	2 twin 5.1"/50 DP	5 single 2.24"/70 (57 mm)	21"ASW	50	DC; 2-MBU 2500	Tamir 5N (possibly Pegas 2M)	1800-2000 yds
Destroyer Escorts "Riga"	1,320	298-07"	28/700	9/2,450 (One boiler)	3 single 3.9"/57DP	2 twin 37-mm	3x21"	26	DC; 2 MBU 2500 6/ or Hercules	Pegas 2M	4000-5000 yds
"Kola"	1,500	315	30/950	12/3,500	4 single 3.9"/56 DP	2 twin 37-mm	3x21"	50	DC	Tamir 5N (possibly Pegas 2M)	1800-2000 yds

1/ For characteristics and performance of naval guided missiles (see appropriate table). Naval 3.35"/52 (85 mm) 3.9"/56 (100 mm) and 3.9"/70 (100 mm) shells and rockets with chemical fill are available and recent information indicates the stockpiling of 5.1"/50 (130 mm) and 6"/57 (152 mm) chemical shells for destroyers and cruisers.

2/ For the availability of specific ASW weapons and their characteristics and performance, see Tables ~~III-D-17, III-D-18, and III-D-19~~.

3/ The number of mines carried aboard ship was determined by assuming an average mine length of 80 inches.

4/ Also 2-MBU 2500A and depth charges.

5/ Also 2-MBU 4500 installed on 6 ships, and MBU 2500A replaces on at least 1 unit.

6/ Also depth charges or Hedgehog.

SECRET

III D 7 (cont.)

Class	Dimensions: Displacement (tons fully loaded)	Dimensions: Length Over-all (feet)	Performance: Max. Spd. (kts)/endur. (nm)	Performance: Econ. Spd. (kts)/endur. (nm)	Armament: Main 1/	Armament: Close Range Antiair	Armament: Torpedo Tubes 2/	Armament: Mines 3/	Armament: ASW 2/	Sonar: Type	Sonar: Ranges Active Mode
Escorts (FSW)											
"Petya"	1,150	270	30/850	10/6,100	2 twin 3.35"/ (85 mm) DP		5x16"ASW	30	4-MBU 2500;DC	Hercules	4000-5000 yds
"Mirka"	1,150	270	30/890	10/6,100	2 twin 3.35"/ (85 mm) DP		5x prob. 16"ASW	30	4-MBU 2500A	Probably Hercules	4000-5000 yds
Submarine Chasers											
"Poti"	580	195	30/unk.	unk.	1 twin 2.24"/70		2x16"ASW	(NA)	2-MBU 2500 or 2500A	Hercules	4000-5000 yds
"Kronshtadt"	380	170	18.5/1,350	12/3,100	1 single 3.35"/ (85 mm) DP	3 twin 12.7mm; 2 single 37-mm		20	2-MBU 1800//	Tamir 10 or 11	1500-2000 yds
Patrol Craft (ASW)											
"S.O.-1"	200	137-09"	29/570	7.5/1920		2 twin 25-mm		24	4-MBU 1800;DC	Tamir 11	2000-2500 yds
"MO-VI"	66.5	83-03"	40/475 or 33/550 with 3 diesels	20/655 or 16/750 with 3 diesels		2 twin 25-mm		contact	Depth Charges	Tamir 10	1500 yds
"Shershen"	160	110	38/575	unk.	(NA)	2 twin auto. 37-mm	4x21"ASW		unk.	unk.	unk.
Minesweepers											
"T-58"	900	230	20/2,200	14.5/3,400	2 twin 2.24"/ 2/ /70 (57 mm)			30	2-MBU 1800	Tamir 11	2000-2500 yds
T-43	560	190-03"	14/2,000	10/3,200	2 twin 37-mm or 2 single	4 machine guns; 2 twin 25-mm		20	Depth Charges	Tamir 11	2000-2500 yds
"Yurka"	460	165	18/unk.	unk.	2.24"/70					Tamir 11	2000-2500 yds
"Sasha"	300	150	18/unk.	unk.	2 twin auto. 37-mm					None	--
T-301	170	125	17/unk.	unk.	1 single	2 twin 25-mm				None	--
"Vanya"	244	130	about 17-18/ unk.	unk.	2.24"/70 2 single 37-mm	4 machine guns				None	--
Motor Torpedo Boats					1 twin auto 37-mm						
"P-4"	22.4	63-04"	50+/350	30/410	(NA)	1 or 2 twin 25-mm	2x18"	8	Depth Charges	None	--
"P-6"	66.5	83-08"	38-40/475	20/655	(NA)	2 twin 25-mm	2x21"	8	Depth Charges	None	--
"P-10"	66.5	83-08"	52/310	20/655	(NA)	2 twin 25-mm	2x21"	8	Depth Charges	None	--
Patrol Boats (Gt)											
"Komar"	78	83-08"	40/505	26/655	2 single SSM	1 twin 25-mm				None	--
"Osa"	205	122	33/825	18.5/875	4 single SSM	2 twin auto 37-mm				None	--

1/ Or Mousetrap, depth charges.
2/ It has been reported that some units mount ASW rocket launchers.
3/ It has been reported that some units also carry 2 twin 25-mm mounts.

S-E-C-R-E-T

14 A 11

PRINCIPAL CURRENT SOVIET ARTILLERY WEAPONS: CHARACTERISTICS AND PERFORMANCE 1/

	203 mm Gun Howitzer M1955	152 mm Gun Howitzer D-20 2/	130 mm Field Gun M-46	122MM Field GUN D-74	122 mm Howitzer M1938 A-30	122mm (?) Gun Howitza M-1963 (?)	100 mm Field Gun M1955
Elevation	-2° to +50°	-5° to +63°	-2.5° to +45°	-2° to +50°	-3° to +63.5°	-10° to +60°	-5° to +45°
Traverse	44°	50°	50°	60°	49°	360°	60°
Rate of Fire (Maximum)	3 rds/min	4 rds/min	7-8 rds/min	rds/min	5-6 rds/min	5-6 rds/min	7 rds/min
(Sustained: 15 min)	9 rds	40 rds	45 rds	45 rds	45 rds	45 rds	60 rds
(Sustained: 30 min)	18 rds	60 rds	70 rds	70 rds	70 rds	70 rds	75 rds
Maximum Range (mtrs)	29,250	17,200	27,000	21,500	11,800	17,000	21,000
Air Transportability	no	yes	yes	yes	yes	yes	yes
Armor Penetration at 0° obliquity	Not applicable	Not applicable	229 mm (AP) at 1000 m	229 mm (AP-T) at 1000 m	203 mm (HEAT)	457 mm (HEAT)	400 mm (HEAT) 211 mm (AP-T) at 1000 m
Prime Mover	Towed by tractor	Towed by tractor	Towed by tractor	Towed by tractor	Towed by truck	Towed by truck	Towed by tractor

1/ The Soviets have toxic chemical rounds for all artillery pieces of 85 mm caliber and larger. Three basic types are known: shells filled with non-persistent agents such as hydrogen cyanide; shells filled with persistent agents such as mustard; and gas-fragmentation shells filled with persistent agents such as mustard or sarin, soman, or a V-agent.

2/ The same carriage is used for both the 152 mm gun-howitzer and the 122 mm field gun.